SEQUENCE LISTING

<110> Anziano, Paul Q.

<120> Manganese Superoxide Dismutase Exon 3-Deleted Isoforms
and Nucleic Acid Molecules Encoding the Isoforms

<130> 53073-0001-US

<140> US 09/623,025
<141> 2001-01-16

<150> US 60/075,948
<151> 1998-02-25

<150> PCT/US99/04129
<151> 1999-02-25

<160> 14

<170> PatentIn Ver. 2.1

<210> 1
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<212> DNA
<213> Homo sapiens

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<221> CDS
<222> (1)..(552)
<223> Isoform of MnSOD E3(-)

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Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val
  1               5                  10                  15

ttg ggg tat ctg ggc tcc agg cag aag cac agc ctc ccc gac ctg ccc   96
Leu Gly Tyr Leu Gly Ser Arg Gln Lys His Ser Leu Pro Asp Leu Pro
             20                  25                  30

tac gac tac ggc gcc ctg gaa cct cac atc aac gcg cag atc atg cag   144
Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln
         35                  40                  45

ctg cac cac agc aag cac cac gcg gcc tac gtg aac aac ctg aac gtc   192
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val
     50                  55                  60

acc gac gag aag tac cag gag gcg ttg gcc aag ggg gag ttg ctg gaa   240
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu
 65                  70                  75                  80

gcc atc aaa cgt gac ttt ggt tcc ttt gac aag ttt aag gag aag ctg   288
Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu
                 85                  90                  95
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acg gct gca tct gtt ggt gtc caa ggc tca ggt tgg ggt tgg ctt ggt   336
Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly
            100                 105                 110

ttc aat aag gaa cgg gga cac tta caa att gct gct tgt cca aat cag   384
Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln
        115                 120                 125

gat cca ctg caa gga aca aca ggc ctt att cca ctg ctg ggg att gat   432
Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp
    130                 135                 140

gtg tgg gag cac gct tac tac ctt cag tat aaa aat gtc agg cct gat   480
Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp
145                 150                 155                 160

tat cta aaa gct att tgg aat gta atc aac tgg gag aat gta act gaa   528
Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu
                165                 170                 175

aga tac atg gct tgc aaa aag taa                                  552
Arg Tyr Met Ala Cys Lys Lys
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             20                  25                  30
Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln
         35                  40                  45
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val
     50                  55                  60
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu
 65                  70                  75                  80
Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu
                 85                  90                  95
Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly
            100                 105                 110
Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln
        115                 120                 125
Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp
    130                 135                 140
Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp
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Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu
                165                 170                 175
Arg Tyr Met Ala Cys Lys Lys
            180
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<210> 3
<211> 45
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: probe, exon
2-exon 4 junction

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Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu Ala
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<212> DNA
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exon 1 forward

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agccagctct agaagcatgt tgag 24

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exon 5 reverse

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<210> 7
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: PCR primer, exon 2 forward

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<223> Description of Artificial Sequence: PCR primer, exon 4 reverse

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<213> Homo sapiens

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<110> University of Nevada-Reno, Richard Bjur, PhD, JD

<120> Identification of Oxidant Isoform of Human MnSOD

<130> unevadareno5013

<140> unfiled
<141> 1999-02-25

<160> 11

<170> PatentIn Ver. 2.0

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<213> human dna and protein segment

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<223> SEQ ID NO:1

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Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val
  1               5                  10                  15

ttg ggg tat ctg ggc tcc agg cag aag cac agc ctc ccc gac ctg ccc   96
Leu Gly Tyr Leu Gly Ser Arg Gln Lys His Ser Leu Pro Asp Leu Pro
             20                  25                  30

tac gac tac ggc gcc ctg gaa cct cac atc aac gcg cag atc atg cag   144
Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln
         35                  40                  45

ctg cac cac agc aag cac cac gcg gcc tac gtg aac aac ctg aac gtc   192
Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val
     50                  55                  60

acc gac gag aag tac cag gag gcg ttg gcc aag ggg gag ttg ctg gaa   240
Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu
 65                  70                  75                  80

gcc atc aaa cgt gac ttt ggt tcc ttt gac aag ttt aag gag aag ctg   288
Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu
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```
                85                  90                  95

acg gct gca tct gtt ggt gtc caa ggc tca ggt tgg ggt tgg ctt ggt   336
Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly
            100                 105                 110

ttc aat aag gaa cgg gga cac tta caa att gct gct tgt cca aat cag   384
Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln
        115                 120                 125

gat cca ctg caa gga aca aca ggc ctt att cca ctg ctg ggg att gat   432
Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp
    130                 135                 140

gtg tgg gag cac gct tac tac ctt cag tat aaa aat gtc agg cct gat   480
Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp
145                 150                 155                 160

tat cta aaa gct att tgg aat gta atc aac tgg gag aat gta act gaa   528
Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu
                165                 170                 175

aga tac atg gct tgc aaa aag taa                                  552
Arg Tyr Met Ala Cys Lys Lys
            180
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<210> 2
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<212> PRT
<213> human dna and protein segment

<400> 2

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Met Leu Ser Arg Ala Val Cys Gly Thr Ser Arg Gln Leu Pro Pro Val
  1               5                  10                  15

Leu Gly Tyr Leu Gly Ser Arg Gln Lys His Ser Leu Pro Asp Leu Pro
             20                  25                  30

Tyr Asp Tyr Gly Ala Leu Glu Pro His Ile Asn Ala Gln Ile Met Gln
         35                  40                  45

Leu His His Ser Lys His His Ala Ala Tyr Val Asn Asn Leu Asn Val
     50                  55                  60

Thr Asp Glu Lys Tyr Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu
 65                  70                  75                  80
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Ala Ile Lys Arg Asp Phe Gly Ser Phe Asp Lys Phe Lys Glu Lys Leu
                85                  90                  95

Thr Ala Ala Ser Val Gly Val Gln Gly Ser Gly Trp Gly Trp Leu Gly
            100                 105                 110

Phe Asn Lys Glu Arg Gly His Leu Gln Ile Ala Ala Cys Pro Asn Gln
        115                 120                 125

Asp Pro Leu Gln Gly Thr Thr Gly Leu Ile Pro Leu Leu Gly Ile Asp
    130                 135                 140

Val Trp Glu His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Pro Asp
145                 150                 155                 160

Tyr Leu Lys Ala Ile Trp Asn Val Ile Asn Trp Glu Asn Val Thr Glu
                165                 170                 175

Arg Tyr Met Ala Cys Lys Lys
            180
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<210> 3
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<400> 3
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<210> 4
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Gln Glu Ala Leu Ala Lys Gly Glu Leu Leu Glu Ala
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<210> 5
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